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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

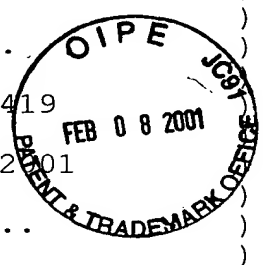
In re Application of:

Jens NIELSEN, et al.

Serial No.: 09/743,419

Filed: January 10, 2001

For: METABOLICALLY...



Art Unit:

Examiner:

Washington, D.C.

February 8, 2001

Docket No.: NIELSEN5

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INFORMATION DISCLOSURE STATEMENT [IDS]

Honorable Commissioner of Patents  
and Trademarks  
Washington, D.C. 20231

S i r :

This Information Disclosure Statement is submitted in accordance with 37 C.F.R. 1.97, 1.98, and it is requested that the information set forth in this statement and in the listed documents be considered during the pendency of the above-identified application, and any other application relying on the filing date of the above-identified application or cross-referencing it as a related application.

1. This IDS should be considered, in accordance with 37 C.F.R. 1.97, as it is filed:

☒ A. within three months of the filing date of the above-identified national application or within three months of the entry into the national stage of the above-identified international application.

☐ B. before the mailing date of a first office action on the merits.

☐ C. after (A) and (B) above, but before final rejection or allowance, and Applicants have made the necessary certification (box "i" below) or paid the necessary fee (box "ii" below).

☐ i. Counsel certifies that, upon information and

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belief, each item of information listed herein was either (a) cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS or (b) was not cited in a communication from a foreign patent office in a counterpart foreign application and was not known to any individual designated in 1.56(c) more than three months prior to the filing of this IDS.

[ ] ii. A check for the fee set forth in 1.17(p), presently believed to be \$240, is enclosed (check no. \_\_\_\_\_).

[ ] D. after (A), (B) and (C) above, but before payment of the issue fee. Applicant petitions under 37 C.F.R. 1.97(d) for consideration of this IDS. A check for the fee set forth in 1.17(i)(1), presently believed to be \$130 is enclosed (check no. \_\_\_\_\_). Counsel certifies that, upon information and belief, each item of information listed herein was either (i) cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this IDS or (ii) was not cited in a communication from a foreign patent office in a counterpart foreign application and was not known to any individual designated in 1.56(c) more than three months prior to the filing of this IDS.

2. In accordance with 37 C.F.R. 1.98, this IDS includes a list (e.g., form PTO-1449) of all patents, publications, or other information submitted for consideration by the office, either incorporated into this IDS or as an attachment hereto. A copy of each document is attached, except as explained below.

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[ ] A. Documents \_\_\_\_\_ are deemed substantially cumulative to documents \_\_\_\_\_, and, in accordance with 1.98(c), only a copy of each of the latter documents is enclosed.

[ ] B. Certain documents were previously cited by or submitted to the Office in the following prior application(s), which are relied upon under 35 U.S.C. 120:

[insert serial number/filing date]

Applicants identify these documents by attaching hereto copies of the form PTO-892s and PTO-1449s from the files of the prior applications or a fresh PTO-1449 listing these documents, and request that they be considered and made of record in accordance with 1.98(d). Per 37 CFR 1.98(d), copies of these documents need not be filed in this application. If copies of any of these documents cannot be found in the files of the prior applications, the Examiner is requested to so notify counsel before taking action in this case, so replacement copies can be submitted. While an IDS filed under §1.97 must contain a "list of all patents, publications or other information submitted for consideration by the Office", see §1.98(a) (1), the only requirement for the list is that it provide the information set forth in §1.98(b). There is no requirement that a form PTO-1449 be used (MPEP §609 merely says that use of this form is "encouraged") and no prohibition on submitting a copy of a form PTO-1449 or form PTO-892 from a prior case. Indeed, the re-use of such forms is desirable as it avoids error in transferring the information, and evidences that the reference was considered in a prior application. A previously accepted PTO-1449, or an examiner-prepared PTO-892, necessarily complies with §1.98(b).

[X] 3. Document AE is not in the English language.

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In accordance with 1.98(c), Applicants state:

- ☒ document AE already contains an English language abstract, summary or claim set.
- ☐ a publicly available abstract is attached to each of documents \_\_\_\_\_, and the source of each abstract is indicated thereon.
- ☐ documents \_\_\_\_\_ are patents or published patent applications for which counterpart English language patents or patent applications exist, and are enclosed, as follows:

| <u>Foreign Lang. Doc.#</u> | <u>English Lang. Doc.#</u> |
|----------------------------|----------------------------|
| [insert]                   | [insert]                   |

- ☐ applicants have prepared an English translation of at least the pertinent portions of documents \_\_\_\_\_, and copies are attached.
- ☐ A concise explanation of the relevance of documents \_\_\_\_\_ is found in the attached search report from the \_\_\_\_\_ Patent Office (see reply to Comment 68 in the preamble to the final rules; 1135 OG 13 at 20).
- ☐ A concise explanation of the relevance of documents \_\_\_\_\_ is set forth as follows:  
[Insert concise explanation of relevance]

4. No explanation of relevance is necessary for documents in the English language (see reply to Comments 67 and 68 in the preamble to the final rules; 1135 OG 13 at 20).

5. Other information being provided for the examiner's consideration follows:

[insert other information]

6. In accordance with 37 C.F.R. 1.97(g) and (h), the filing of this IDS should not be construed as a representation

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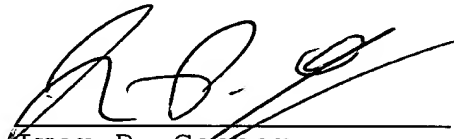
that a search has been made or that information cited is, or is considered to be, material to patentability as defined in §1.56 (b), or that any cited document listed or attached is (or constitutes) prior art. Unless otherwise indicated, the date of publication indicated for an item is taken from the face of the item and Applicant reserves the right to prove that the date of publication is in fact different.

7. The Commissioner is hereby authorized and requested to charge any additional fees which may be required in connection with this application or credit any overpayment to Deposit Account No. 02-4035.

Respectfully submitted,

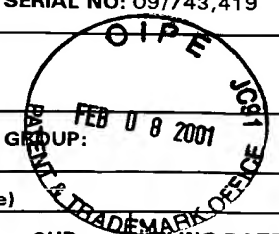
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|--|----|---|---|---|---------------------------------|---|---|---|---------|-----------------|-------|---------------|---------------------------|
| FORM PTO-1449  |    | U.S. DEPARTMENT OF COMMERCE<br>PATENT AND TRADEMARK OFFICE  |   |   | ATTY DOCKET NO: Jens NIELSEN    |   | SERIAL NO: 09/743,419   |   |         |                 |       |               |                           |
| LIST OF DOCUMENTS CITED BY APPLICANT<br>(Use several sheets if necessary)  |    |   |   |   | APPLICANT: Jens NIELSEN, et al. |   |   |   |         |                 |       |               |                           |
|  |    |   |   |   | FILING DATE: January 10, 2001   |   |  |   |         |                 |       |               |                           |
| U.S. PATENT DOCUMENTS (include at least patentee, patent number and issue date)  |    |   |   |   |                                 |   |   |   |         |                 |       |               |                           |
| EXAMINER<br>INITIAL  |    | DOCUMENT NUMBER   |   |   |                                 |   |   |   | DATE    | PATENTEE        | CLASS | SUB-<br>CLASS | FILING DATE<br>IF APPROP. |
|  | AA | 5   | 8 | 3 | 0                               | 7 | 1   | 6 | 03NOV98 | Kojima, et al.  |       |               |                           |
|  | AB |   |   |   |                                 |   |   |   |         |                 |       |               |                           |
| FOREIGN PATENT DOCUMENTS (include at least document number, publication date and country)  |    |   |   |   |                                 |   |   |   |         |                 |       |               |                           |
|  |    | DOCUMENT NUMBER   |   |   |                                 |   |   |   | DATE    | COUNTRY         | CLASS | SUB-<br>CLASS | TRANSLATION<br>YES/NO     |
|  | AC | 0   | 4 | 6 | 2                               | 6 | 7   | 4 | 27DEC91 | Europe          |       |               |                           |
|  | AD | 0   | 7 | 3 | 3                               | 7 | 1   | 2 | 29SEP96 | Europe          |       |               |                           |
|  | AE | 9   | 6 | 4 | 1                               | 8 | 8   | 8 | 27DEC96 | WIPO            |       |               | YES                       |
|  | AF | 9   | 8 | 1 | 8                               | 9 | 0   | 9 | 07MAY98 | WIPO            |       |               |                           |
|  | AG | 9   | 8 | 5 | 4                               | 3 | 3   | 7 | 03DEC98 | WIPO            |       |               |                           |
|  | AH | 9   | 9 | 2 | 8                               | 4 | 8   | 0 | 10JUN99 | WIPO            |       |               |                           |
|  | AI | 9   | 9 | 4 | 6                               | 3 | 6   | 3 | 16SEP99 | WIPO            |       |               |                           |
| OTHER DOCUMENTS (include author, title, name of publication, volume, pages & date of publication)  |    |   |   |   |                                 |   |   |   |         |                 |       |               |                           |
|  | AJ | deFelipe, et al., "Cofactor Engineering: a Novel Approach to Metabolic Engineering in <i>Lactococcus lactis</i> by Controlled Expression of NADH Oxidase," JOURNAL OF BACTERIOLOGY, 180(15):3804-3808 (1998)  |   |   |                                 |   |   |   |         |                 |       |               |                           |
|  | AK | Anderlund, et al., "Expression of the <i>Escherichia coli</i> <i>pntA</i> and <i>pntB</i> Genes, Encoding Nicotinamide Nucleotide Transhydrogenase, in <i>Saccharomyces cerevisiae</i> and Its Effect on Product Formation during Anaerobic Glucose Fermentation," APPLIED AND ENVIRONMENTAL MICROBIOLOGY, 65(6):2333-2340 (1999) |   |   |                                 |   |   |   |         |                 |       |               |                           |
|  | AL | Abstract of Boonstra, et al., "Sequence of the Soluble Pyridine Nucleotide Transhydrogenase of <i>Azotobacter vinelandii</i> ,"   |   |   |                                 |   |   |   |         |                 |       |               |                           |
|  | AM | Avendaña, et al., "GDH3 Encodes a Glutamate Dehydrogenase Isozyme, a Previously Unrecognized Route for Glutamate Biosynthesis in <i>Saccharomyces cerevisiae</i> ," JOURNAL OF BACTERIOLOGY, 179(17):5594-5597 (1997)   |   |   |                                 |   |   |   |         |                 |       |               |                           |
|  | AN | vanRiel, et al., "A Structured, Minimal Parameter Model of the Central Nitrogen Metabolism in <i>Saccharomyces cerevisiae</i> : the Prediction of the Behavior of Mutants," J. THEOR. BIOL. 191:397-414 (1998)  |   |   |                                 |   |   |   |         |                 |       |               |                           |
|  | AO | vanDijken, et al., "Redox Balances in the Metabolism of Sugars by Yeasts," FEMS MICROBIOLOGY REVIEWS 32:199-224 (1986)  |   |   |                                 |   |   |   |         |                 |       |               |                           |
|  | AP | deFelipe, et al., "The Role of NADH-oxidation in Acetoin and Diacetyl Production from Glucose in <i>Lactococcus lactis</i> seubsp. <i>lactis</i> MG1363," FEMS MICROBIOLOGY LETTERS 156:15-19 (1997)  |   |   |                                 |   |   |   |         |                 |       |               |                           |
|  | AQ | deVos, "Metabolic Engineering of Sugar Catabolism in Lactic Acid Bacteria," ANTONIE VAN LEEUWENHOCK, 70:223-242 (1996)  |   |   |                                 |   |   |   |         |                 |       |               |                           |
|  | AR | Tantirungkij, et al., "Expression of <i>Escherichia coli</i> Transhydrogenase Genes in <i>Saccharomyces cerevisiae</i> ," MICROB. UTIL. RENEWABLE RESOUR. 9:664-672 (1995)  |   |   |                                 |   |   |   |         |                 |       |               |                           |
|  | AS | Voordouw, et al., "Why are Two Different Types of Pyridine Nucleotide Transhydrogenase Found in Living Organisms?," EUR. J. BIOCHEM. 131:527-533 (1983)   |   |   |                                 |   |   |   |         |                 |       |               |                           |
| EXAMINER   |    |   |   |   |                                 |   |   |   |         | DATE CONSIDERED |       |               |                           |
| EXAMINER: Initial if reference considered. Draw line through citation if not in conformance <u>and</u> not considered. Include copy of this form with next communication to applicant. |    |   |   |   |                                 |   |   |   |         |                 |       |               |                           |